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AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (Currently Amended) A method of notifying a first ATM communication network of a fault related to a label switch path (LSP) of a second MPLS communication network, said first ATM communication network connected to a third ATM communication network through said LSP of said second MPLS communication network, said first ATM communication network having a first ATM OAM protocol adapted to monitor integrity of said first ATM communication network, said second MPLS communication network having a second MPLS OAM protocol adapted to monitor integrity of said second MPLS communication network, said method comprising:

detecting said fault related to said LSP of said second MPLS communication network by monitoring connectivity verification (CV), forward defect indicator (FDI), and backward defect indicator (BDI) packets of said second MPLS OAM protocol ;

generating a first OAM alarm indication signal (AIS) cell of said first ATM OAM protocol indicating detection of said fault;

transmitting said first OAM AIS cell to said first ATM communication network to indicate said fault to said first ATM communication network thereby indicating a loss of communications with said third ATM communication network through said LSP .

2. (Currently Amended) The method of notifying a first ATM communication network of a fault related to a LSP of a second MPLS communication network as claimed in claim 1, wherein said first ATM communication network is connected with said MPLS second communication network at a network element.

3. (Cancelled)

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4. (Currently Amended) A method of notifying a first ATM communication network of a fault related to a LSP of a second MPLS communication network as claimed in claim 2 3- , wherein said detecting said fault occurs at said network element.

5. (Currently Amended) A method of notifying a first ATM communication network of a fault related to a LSP of a second MPLS communication network as claimed in claim 4, wherein said network element is adapted to receive said CV packets connectivity verification cells from said second MPLS communication network.

6. (Currently Amended) A method of notifying a first ATM communication network of a fault related to a LSP of a second MPLS communication network as claimed in claim 5, wherein said fault related to said second MPLS communication network is detected at said network element by recognition of expiry of a time interval in which a number of said CV packets connectivity verification cells have not been received.

7. (Currently Amended) The method of notifying a first ATM communication network of a fault related to a LSP of a second MPLS communication network as claimed in claim 6 3- , wherein said number of said CV packets connectivity verification cells is at least three.

8-19. (Cancelled)

20. (New) For an ATM network carrying an ATM connection in a label switched path (LSP) over a core MPLS network, a method of notifying network nodes about a disruption in service, comprising the steps of:
   a) providing an ATM/MPLS edge switch at an interface between the ATM network and the MPLS network;
   b) establishing a routing path traversing a first segment of the ATM network, over the edge switch to the MPLS network towards a second segment of the ATM network;
   c) monitoring the routing path at the edge switch and generating an alarm signal upon detection of a fault affecting the LSP; and
   d) transmitting the alarm signal to all network nodes of the ATM network affected by the fault.

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21. (New) The method of claim 20, wherein step c) comprises:

c1) generating an change of state signal at a MPLS network interface on the edge switch for providing a failure state indication for the LSP;

c2) transmitting the failure state indication to an ATM network interface on the edge switch; and

c3) based on the indication, generating at the ATM network interface the alarm signal, wherein the alarm signal is an ATM OAM alarm indication signal (AIS) packet.

22. (New) The method of claim 21, wherein said step c1) comprises:

monitoring from the MPLS network interface a status of the LSP using MPLS OAM packets received from the MPLS network; and

detecting the fault and generating the failure state indication at the MPLS network interface, wherein the failure state indication indicates a failure in the LSP across the MPLS network.

23. (New) The method of claim 21, wherein step c1) comprises:

monitoring from the MPLS network interface operation of an egress port of the LSP using physical interface circuitry; and

detecting the fault and generating the failure state indication at the MPLS network interface, wherein the failure state indication indicates a failure at the egress port of the edge switch.

24. (New) The method of claim 20, wherein step c) comprises:

monitoring from the edge switch, operation of the MPLS network interface using a controller provided on the edge switch;

detecting the fault at the MPLS network interface and generating the failure state indication demonstrating a failure at the MPLS network interface and transmitting the failure state indication to an ATM network interface on the edge switch; and

at the ATM network interface, generating the alarm signal, wherein the alarm signal is an ATM OAM alarm indication signal (AIS) packet, based on the failure state indication.

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25. (New) The method of claim 20, wherein step c) comprises:

monitoring the routing path between an MPLS network interface and an ATM network interface at the edge switch using a controller provided on the edge switch;

detecting the fault within the edge switch and generating a failure state indication demonstrating a failure on the routing path between the ATM network interface and the MPLS network interface;

based on the failure state indication,

generating at the ATM network interface an ATM OAM alarm indication signal (AIS) packet; and

generating at the MPLS network interface an MPLS OAM forward defect indication (FDI) packet.

26. (New) The method of claim 20, wherein step c) comprises:

monitoring operation of an ATM interface at the edge switch from a controller on the edge switch;

detecting the fault at the ATM network interface and generating a failure state indication demonstrating a failure on the routing path at the ATM network interface; and

generating at the MPLS network interface an ATM OAM alarm indication signal (AIS) packet based on the failure state indication.

27. (New) The method of claim 20, wherein step c) comprises:

monitoring from an ATM network interface operation of the routing path at an ingress port on the edge switch;

detecting the fault at the ingress port and generating a failure state indication demonstrating a failure on the ingress port;

transmitting the failure state indication to an MPLS network interface on the edge switch; and

generating at the MPLS network interface an ATM OAM alarm indication signal (AIS) packet based on the indication.

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28. (New) In an ATM network carrying an ATM connection across a core MPLS network in a label switched path (LSP), an ATM/MPLS edge node for notifying the ATM network of a failure in the LSP, the edge node comprising:

an MPLS interface for monitoring operation of the LPS, and generating a failure state indication if the failure affects a routing path across the MPLS network or an egress port of the routing path on the edge node;

an ATM interface for generating and transmitting an ATM OAM alarm indication signal (AIS) packet on receipt of the failure state indication; and

a controller for monitoring operation of the routing path within the edge node, and operation of the ATM and MPLS interfaces,

wherein the MPLS interface transmits the ATM OAM AIS packet transparently over the LSP when the failure affects an ingress port of the routing path on the edge node, and generates and transmits an MPLS OAM forward defect indication (FDI) packet over the LSP when the failure affects the routing path between the ATM network interface and the MPLS network interface.

29. (New) The edge node of claim 28, wherein the MPLS network interface comprises:

a MPLS OAM state machine for each LSP tunnel originating at the edge node for receiving an MPLS OAM frame indicating a change of state of operation of the routing path carried in a LSP tunnel across the MPLS network; and

an OAM task module for placing change of state signals from all MPLS OAM state machines in a queue and for informing a LSP management system of each change of state in order.

30. (New) The edge node of claim 28, wherein the ATM network interface further comprises means for transmitting the ATM OAM AIS to a node in a first segment of the ATM network affected by the failure, if the failure is at the MPLS network interface or in the MPLS network.